The Effect of Prior Knowledge on Price Acceptability and the Type of Information Examined

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This article assesses whether differences in prior knowledge result in differences in (1) price acceptability and (2) the extent to which different types of information are examined. Using a personal computer–based methodology, subjects who varied in their prior product knowledge provided price responses, and the time they spent examining various kinds of information was measured. Acceptable price-range endpoints (price limits) were found to be lowest for low-knowledge subjects. Further, the extent to which price and related extrinsic information was examined was found to be lowest for moderately knowledgeable subjects. Results from a second study provide substantive support for the claim that increasing prior knowledge is accompanied by an increase in both limits of the acceptable price range.

Prior knowledge, or the information held in an individual's memory, appears to facilitate easier and more efficient processing of information because knowledgeable consumers are able to focus on those pieces of information that are relevant to the task at hand (Johnson and Russo 1984). Further, knowledgeable consumers are capable of making more refined category-related judgments, thus allowing them to evaluate products relative to other, appropriate members of the same (finer) category of products (Rosch et al. 1986). Because of this ability to compare a product with the appropriate referent product, knowledgeable consumers are more likely to identify and select products of relatively superior quality.

It has also been suggested in the behavioral pricing literature that prior knowledge moderates the effect of price on perceived quality and influences the prices consumers are willing to pay—the acceptable price range—for a given level of quality (Lichtenstein, Bloch, and Black 1988; Rao and Monroe 1988). However, it is not clear precisely how prior knowledge affects the consumer's acceptable price range. The price–perceived quality literature suggests that consumers who have little prior knowledge tend to use price to assess product quality more than consumers who have a moderate degree of prior knowledge. Further, consumers with a high degree of prior knowledge may resort to using price to assess quality as well, if such a heuristic is justified, as in the case of certain product categories in which price is a valid indicator of quality. If this variability in the use of price (and related extrinsic information) by differentially knowledgeable consumers leads to different quality judgments, then the price that differentially knowledgeable consumers will be willing to pay should also vary. Specifically, knowledgeable consumers should be less willing to pay prices that are not commensurate with the quality of the product, compared with consumers who are not knowledgeable. This tendency should occur because knowledgeable consumers are likely to be more aware of the actual quality and, hence, the value of the product.

Because consumers' value perceptions influence their acceptable prices, the information they use to form their quality and value perceptions will likely have an influence on their acceptable prices. However, the search for and use of information is itself influenced by information currently held in memory (i.e., prior knowledge; Johnson and Russo 1984; Rao and Monroe 1988). It therefore appears that prior knowledge may (1) influence the amount (and type) of information sought to make product evaluations and (2) have an influence on the prices considered acceptable to pay, based in part on the evaluation of the product.

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It is our purpose to examine these two issues of price acceptability and information examination and to assess how they vary across differentially knowledgeable consumers. Specifically, in contrast to the price-quality research question in which quality perceptions based on price variations are examined, our focus is on the quality-price issue in which we conceive that quality-perception variations lead to different acceptable prices. In other words, while in the price-quality literature the focus is on the "you get what you pay for" perspective, here the focus is on the "you pay for what you get" perspective. It is posited that, if consumers have the same product-quality-related information (i.e., they have the same level of knowledge), neither the prices they offer for a given level of quality nor the information they examine to assess product quality will vary. However, when information (i.e., prior knowledge) varies across consumers, their reliance on different types of information when evaluating product quality is also expected to vary. Further, if quality perceptions vary because different types of information lead to different quality judgments, differentially knowledgeable consumers will vary in how much they will be willing to pay. We report two studies that examined how differentially knowledgeable consumers' range of prices considered acceptable varied. We also examined how information-examination patterns varied depending on consumers' prior knowledge.

LITERATURE REVIEW AND HYPOTHESES

Considerable research in consumer behavior has examined the relationship between price and perceived quality (cf. Monroe 1973; Zeithaml 1988). Insights from this field of inquiry have been well documented in qualitative (Olson 1977) as well as quantitative commentaries (Rao and Monroe 1989). Quality perceptions are indeed influenced by price as well as by other information. Subsequently, quality perceptions are traded off against the monetary sacrifice associated with acquiring the product to form value perceptions and purchase intentions (Monroe 1990). In other words, value perceptions, which are influenced by the information consumers acquire, in turn influence consumers' willingness to pay.

In this article, we first examine price perceptions as they are affected by quality information. While it seems clear that consumers use price information to make inferences about the quality of a product, it is not entirely clear how the perceived quality of the product will influence the price that a consumer is willing to pay. Specifically, as will be developed here, just as prior knowledge seems to influence price-quality perceptions, prior knowledge is expected to influence the acceptable price range. Second, we investigate how prior knowledge affects the examination of different types of information used in forming the quality and value judgments that affect price acceptability.

The Acceptable Price Range

The concept of the acceptable price range is rooted in social judgment theory and assimilation-contrast effects (cf. Sherif 1963; Sherif and Sherif 1967). The acceptable price range is conceived to have upper and lower price limits or endpoints (Gabor and Granger 1966; Monroe and Venkatesan 1969). The upper price limit identifies the price above which consumers would consider the product to be too expensive or representative of a separate (higher-priced) category, while the lower price limit identifies the price below which consumers would be suspicious of the quality of the product or consider it representative of a separate (lower-priced) category.

The observation that consumers exhibit a range of prices that they consider acceptable to pay is not surprising. Prices do vary in the marketplace, across brands, across stores, and at different times. Because consumers have observed and experienced variations in prices of brands, across stores, and at different times, it is unlikely that they would have clearly defined point estimates of prices for a product. In other words, if consumers are knowledgeable to differing degrees about price variations, this knowledge will, in part, influence the price that they would consider acceptable to pay for a product. Thus, the knowledge that luxury automobiles are typically priced at $30,000 or more will likely influence the price that buyers consider acceptable for a luxury automobile; conversely, the knowledge that economy cars are priced in the $10,000 to $15,000 range will likely influence prices considered acceptable for economy cars. Consistent with Herr (1989, p. 73), we argue that "consumers maintain an internal representation of price for a product category."

The acceptable price range incorporates two dimensions: a width dimension and a level dimension (Lichtenstein et al. 1988). Individuals may differ not only in how wide a range of prices they find acceptable but also in whether this range is centered around the same point. Thus, two consumers could have the same width (e.g., $20) centered around two different levels that represent different product categories (e.g., $400 and $200) by having different lower and upper price limits (e.g., $390–$410 and $190–$210) associated with their acceptable price range. It has been suggested that variations in the level and width of the individual's acceptable price range may be influenced by numerous factors, including price consciousness and product involvement (Lichtenstein et al. 1988). For instance, prior research indicates that subjects who are uninformed about price have lower acceptable price limits than subjects who are informed about price (Fouilhe 1970; Kosenko and Rahtz 1988). While it has been suggested that there may be an effect of "product knowledge on price percep-

tions" (Lichtenstein et al. 1988, p. 251), previous research has not presented a conceptual framework to explain this effect of prior knowledge on price acceptability levels. Before developing such a link, we first examine the notion of prior knowledge in greater detail.

Prior Knowledge

Alba and Hutchinson (1987) point out that consumer knowledge has two components: familiarity (which is based on purchase, use, or vicarious experience) and expertise (which is based on the ability to perform product-related tasks). Operationally, prior knowledge has been measured in terms of information stored in memory (objective knowledge; Brucks 1985) or in terms of what people perceive they know about a product or product class (subjective knowledge; Monroe 1976). However, perceptions of knowledge (subjective knowledge) are likely to depend on what consumers actually know as well as on their self-confidence in the amount and type of knowledge held in memory (Park and Lessig 1981). Thus, following Sujan (1985) and Rao and Monroe (1988), we define prior product knowledge as encompassing the amount of accurate information held in memory as well as self-perceptions of product knowledge. This definition has operational implications for scale construction and is consistent with recent conceptual and measurement approaches (Alba and Hutchinson 1987; Brucks 1985, 1986; Rao and Monroe 1988; Sujan 1985).

Prior Knowledge and Price-Quality Judgments. As mentioned earlier, prior knowledge has been shown to influence price-quality perceptions (Rao and Monroe 1988). Consumers who are not well-informed about important product attributes are expected to tend to rely on *extrinsic* cues, such as price, to assess quality. However, as prior knowledge and the ability to evaluate product attributes increase, the reliance on *intrinsic* cues should increase. Finally, as consumers become extremely knowledgeable, not only will they be knowledgeable about important product attributes and how to evaluate them, they will also be knowledgeable about price variations and price-quality relationships in the marketplace. Consequently, such highly knowledgeable consumers may also use price to assess quality if they know that a positive price-quality relationship prevails in the marketplace (Rao and Monroe 1988).

Prior Knowledge and Levels of the Acceptable Price Range. Because the degree of consumers' prior knowledge influences the cues they utilize to judge product quality, consumers' judgments of product quality will likely vary as the information contained in the cues varies. For instance, if low-knowledge consumers use price to assess product quality in a product category in which it is inappropriate to do so (because actual quality is not highly correlated with price), while moderately knowledgeable and highly knowledgeable consumers focus on appropriate intrinsic information, the quality judgments arrived at by the three groups may be very different. These differences are likely to occur because, while price information may imply one level of quality, intrinsic information may imply a different level of quality. Furthermore, consumers who are higher on the knowledge continuum will also be more knowledgeable not only about the quality (and associated value) of the product, but also about the prevailing market prices of comparable substitutes. These differences in quality judgments and knowledge of prevailing market prices may result in different levels of the acceptable price range (Monroe and Venkatesan 1969; Urbany, Bearden, and Weilbaker 1988). Therefore, consumers who judge the product to be of high quality should be willing to pay more than those who judge the product not to be of high quality.[1]

Prior Knowledge and the Width of the Acceptable Price Range. The width of the acceptable price range identifies the range of prices considered acceptable (the latitude of acceptance). Other prices outside this range either are considered unacceptable or objectionable (the latitude of rejection) or are considered neither acceptable nor unacceptable (the latitude of noncommitment; Petty and Cacioppo 1981). On the basis of social judgment theory (Sherif 1963; Sherif and Sherif 1967), it can be argued that increased knowledge should result in a reduction of the latitude of noncommitment, an area that reflects the consumers' uncertainty about his/her position on an issue. Consequently, the latitude of acceptance and the latitude of rejection may *both* expand as knowledge increases because the individual is now able to identify more prices that are either acceptable or unacceptable.

The extent to which latitudes change may be affected by the content of the information acquired as knowledge increases. For instance, if the consumer acquires information on prevailing market prices that indicates a price range that is narrower than the current latitude of acceptance, the latitude of noncommitment may be reduced, *and* the latitude of acceptance may be reduced as well, reflecting the information about the narrower market price range. Similarly, if the low-knowledge consumer learns that the prevailing range of quality is narrow, the latitude of acceptable prices may narrow to reflect the narrow range of quality. Therefore, increasing knowledge will result in increases of the latitude of acceptance (width of the acceptable price range) *only* if the higher level of knowledge indicates that prevailing market price and quality ranges are wider than was originally thought. In essence, therefore, prior knowledge of price and quality ranges likely will affect the width of the acceptable price range.

[1]The implicit assumption in this argument is that utility for money does not vary systematically between differentially knowledgeable groups.

These two notions of knowledge (price knowledge and quality knowledge) are highly correlated both conceptually and empirically (Rao and Monroe 1988). Knowledge about product quality and about prices in the marketplace appear to be acquired simultaneously, as consumers learn about different aspects of the product and marketplace (Rao and Olson 1990). In other words, consumers do not learn about product attributes independently of price variation in the marketplace, and it is this simultaneous learning about price and quality variations that allows them to make correct price-quality associations when they become extremely knowledgeable (Rao and Monroe 1988). Consequently, prior knowledge is viewed holistically here, and separate effects for prior product knowledge and prior price knowledge are not examined, as the two constructs do not generate conflicting predictions.

Summary of the Linkage between Prior Knowledge and the Acceptable Price Range. Enhancements in prior product knowledge should result in more accurate quality assessments (Rao and Monroe 1988). Therefore, given the conceptual linkage between quality and value (see Monroe 1990; Zeithaml 1988), it is expected that the higher the perceived quality, the more valuable a product will be perceived to be, and the higher the price consumers should be willing to pay (Monroe 1981). Further, as consumers' product-class knowledge increases, their acceptable price-range limits should correspond to market prices: the upper limit of the acceptable price range should correspond to the high end of prevailing market prices, while the lower limit of the acceptable price range should correspond to the low end of prevailing market prices. Consequently, increasingly knowledgeable consumers will likely provide price limits that (1) more accurately reflect their perceived quality and value and (2) correspond to the prevailing market price range of the product.

In general, it appears that prior knowledge should have some effect on acceptable prices. The empirical evidence even suggests a direction for the effect. However, there is little *theoretical* basis on which to suggest that increasing knowledge will result in either increases or decreases of the level or the width of the acceptable price range. In other words, while the evidence suggests a positive relationship, the mechanism by which price limits change as consumer knowledge increases is unclear. The literature on missing information provides an explanation for how changes in knowledge can indeed influence elements of the acceptable price range through changes in value perceptions. Therefore, this literature is examined next.

Predictions Based on a Missing Information Argument

The empirical literature on the influence of missing information on inference formation indicates that the "consistent finding is that greater uncertainty leads to greater discounting of the inferred attribute value" (Ford and Smith 1987, p. 363). In other words, when consumers are faced with a product for which they have some but not all information, they will infer a lower-than-average attribute value (i.e., discount the attribute value) for any dimension for which information is unavailable, and this tendency is exacerbated in the face of uncertainty. In general, it appears that consumers behave in a risk-averse and conservative manner and protect themselves by assuming that the product is of below-average quality because they are inherently suspicious of merchants who do not provide all information. This line of thinking is consistent with the argument in information economics according to which consumers are apprehensive that sellers will provide low quality and therefore they tend to offer below-average prices (Akerlof 1970). Consequently, if the product turns out to be of better-than-expected quality, consumers are pleasantly surprised; if the product turns out to be of poor quality, they are not disappointed.

Meyer (1981, 1982) presents a model according to which alternatives that have less information associated with them are viewed less favorably because of the uncertainty associated with the missing information. Johnson and Levin (1985, p. 175) provide further evidence in support of this finding and conclude that "consumers may be wary of a product for which not all salient information is available." Recently, Hoch and Deighton (1989, p. 9) echoed this argument, stating that when information "is missing . . . consumers become extra vigilant." Consequently, it appears that missing information on a dimension of an alternative leads to a lower overall evaluation of that alternative because the value of the missing attribute is discounted. This lower overall evaluation is likely to lead to lower willingness to pay.

It is our thesis that the notion of missing information is similar to the absence of prior knowledge. In other words, low-knowledge consumers lack information and behave in a fashion very similar to uncertain consumers (whose uncertainty arises in part from a lack of information). Consequently, low-knowledge consumers are likely to infer quality lower than their more knowledgeable counterparts. Therefore, such low-knowledge consumers will provide lower price limits than those provided by less uncertain and more knowledgeable consumers. Indeed, recent empirical evidence provided by Gaeth et al. (1991, p. 55) indicates that, in product evaluations, "high-knowledge consumers gave significantly higher ratings of quality . . . than did low-knowledge consumers." As consumers' knowledge increases to a high level, they become more aware of product quality and market prices; information on price, and associated quality and value, is no longer missing and does not

have to be inferred (and thus will not be discounted).[2] Consequently, once consumers have reached a level of expertise in which they are knowledgeable of prevailing market prices, the upper and lower limits of their acceptable price ranges will be consistent with prevailing market prices, if they can economically afford the higher market prices. Hence, beyond a certain point on the prior-knowledge continuum, the highest price consumers are willing to pay will not continue to increase but will level off. Therefore, the relationship between knowledge and upper and lower price limits should be represented by a curve that first slopes upwards and then flattens out (a hyperbola with negative curvature).

This conceptual argument is consistent with the psychophysical approach (Monroe 1971a, 1971b) and suggests the following two hypotheses:

H1: The upper limit of consumers' acceptable price range will increase with increasing prior knowledge until it reaches a point at which it corresponds to the high end of the prevailing market price.

H2: The lower limit of consumers' acceptable price range will increase with increasing prior knowledge until it reaches a point at which it corresponds to the low end of the prevailing market price.

The argument underlying the rationale behind Hypotheses 1 and 2 is that low-knowledge consumers discount missing information more than their more knowledgeable counterparts. Hence, low-knowledge consumers offer lower overall product evaluations than their more knowledgeable counterparts and are therefore not willing to pay as high a price as their more knowledgeable counterparts. However, it is not clear from what level the missing information is being discounted. For instance, if information on quality is missing and low-knowledge consumers discount quality information 20 percent while high-knowledge consumers discount quality information only 5 percent, it is not clear from what base the discounting is occurring. Specifically, if the acceptable price reflects a discounted quality judgment, it is unclear from what quality (and associated price) level the discounting is taking place. In other words, in the absence of information regarding the scale on which an attribute exists, it is not possible to discount successfully; one may discount 20 percent from 1,000 and from 100 and generate completely different values (800 and 80), neither of which may be below average. Therefore, to successfully discount to protect oneself, it is essential that a reference point be available. In particular, if it is known that prevailing market prices are around $100 (an internally held reference price) or if a merchant suggests a fair price of $100 (an external reference price), consumers have a level from which they can discount, if they so desire, and they can discount to the degree they desire. Clearly, therefore, it is necessary that a reference price be provided so that those (low-knowledge) consumers who do not have internally held price information from which to discount can use the externally available reference price and do not have to resort to random guessing. Consequently, as we describe in a later section, a consumer reference price was available for all subjects, enabling us to examine discounting across differentially knowledgeable consumers.

As argued earlier, quality judgments and associated willingness to pay are likely to be influenced by the information consumers seek out and examine. Therefore, we turn next to the second issue of interest, that of variations in the degree to which different types of information will be examined by differentially knowledgeable consumers.

Information Type: Use of Price and Other Extrinsic and Intrinsic Information

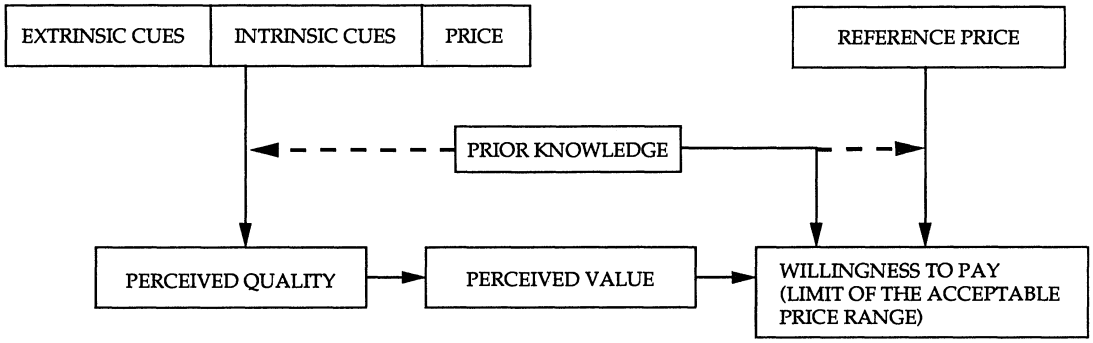
On the basis of the argument that price may be used as an indicator of product quality, numerous empirical studies have examined the relationship between price and consumers' perceptions of product quality. Further, some of these studies have examined how other information cues, such as brand name, store name, and physical product characteristics, influence quality perceptions. The empirical evidence suggests that price–perceived quality relationships coexist with brand–perceived quality effects (Rao and Monroe 1989). Apparently consumers use a variety of information cues in evaluative tasks.

Existing evidence on cue utilization suggests that consumers with low prior knowledge are relatively less able to interpret and use intrinsic information in evaluative tasks and thus rely on price and other extrinsic information. Moderately knowledgeable consumers have knowledge structures that are relatively well developed, and their schemata include evaluative criteria and rules for product assessments (Hayes-Roth 1977; Marks and Olson 1981) that allow for the use of intrinsic cues to evaluate quality. Highly knowledgeable consumers not only have well-developed schemata that allow for the successful use of intrinsic information but have also acquired sufficient information to know whether price is a good index of quality for the product category in question (Rao and Monroe 1988). This rationale is consistent with the results reported by Park and Lessig (1981) who found that low- and high-prior-knowledge subjects used the same (brand) information

[2] In the missing-information literature, subjects are typically asked to infer the values in an empty cell of a brand × attribute matrix. Therefore, the absence of information is experimentally induced. In the case of low prior knowledge, the absence of information does not occur as a consequence of an experimental manipulation but is a characteristic of the subject. In other words, missing information is measured, not manipulated.

FIGURE 1

A CONCEPTUALIZATION OF THE EFFECT OF PRIOR KNOWLEDGE ON PRICE ACCEPTABILITY AND TYPE OF INFORMATION EXAMINED



SOURCE.—Adapted from Dodds and Monroe (1985), Rao (1989), and Zeithaml (1988).
NOTE.—A dashed line indicates a moderating effect.

in product evaluations, while moderately knowledgeable subjects were most confident when they used intrinsic product information. In general, therefore, differentially knowledgeable consumers tend to rely on different types of information when evaluating products. Hence, consumers are expected to manifest differences in the attention they accord different types of information when evaluating product quality. Specifically, the *time* spent examining extrinsic relative to intrinsic information is expected to vary across differentially knowledgeable consumers. Consumers who are low in knowledge are expected to attend to and examine extrinsic information to a relatively high degree, given their lower ability to successfully interpret intrinsic information. However, as prior knowledge and the ability to successfully examine intrinsic information increases, relative attention to intrinsic information should increase. Finally, once an extremely high level of prior knowledge is achieved, the consumer may use extrinsic information for evaluative purposes as well because such extremely knowledgeable consumers are aware of any linkage between the extrinsic information and product quality (e.g., ecological price-quality relationships; Rao and Monroe 1988). Therefore, the relative attention paid to extrinsic information should increase as prior knowledge moves from a moderate to a high level. As a consequence, the trend exhibited between prior knowledge and relative attention paid to extrinsic information should be quadratic (U-shaped).

H3: When assessing product quality, the attention accorded to extrinsic information relative to intrinsic information will first decline and then increase, as prior knowledge increases, for product categories in which extrinsic information is useful in assessing product quality.

We summarize our conceptual argument in Figure 1. Prior knowledge is known to moderate the use of price to assess product quality and is therefore likely to generate different value perceptions and willingness to pay. Less knowledgeable (or more uncertain) consumers are likely to infer lower quality and value (relative to that suggested by reference price) and will thus be willing to pay less than knowledgeable consumers. These issues form the basis for Hypotheses 1 and 2. Further, prior knowledge is expected to moderate the use of other (extrinsic and intrinsic) information in inferring product quality, similar to how it moderates the price–perceived quality relationship (Hypothesis 3).

To observe changes in the limits of the acceptable price range and the relative attention accorded to extrinsic versus intrinsic information as consumer knowledge changed, an empirical investigation was undertaken. The method used to examine these issues is described next.

METHOD

Overview of Research

Two studies were conducted. Results from a first study indicated support for all the hypothesized relationships. Subjects who responded to a computer-based stimulus appeared to discount the provided reference price differently, depending on their degree of prior knowledge. Further, as subjects' prior knowledge increased, their relative examination of extrinsic information first increased and then decreased. In the second study, the reference price provided as part of the experimental induction was increased to determine whether similar discounting patterns could be observed at different reference-price levels. Once again, the results supported the basic theoretical argument. The specifics of the research method and a description of the first

study are presented here, while the second study is described in a later section.

Product Selection

To select a product that would lend itself to an examination of the issues mentioned above, prior research was reviewed. Automobiles (Johnson and Russo 1984), microwave ovens (Park and Lessig 1981), women's blazers (Rao and Monroe 1988), and cameras (Sujan 1985) are some of the products that have been used in prior-knowledge research. Given the need to use a product for which there was a subject pool that potentially ranged in knowledge, a woman's blazer was selected as the test product. This product allowed for the use of student subjects consisting of males, females, and clothing and textile majors, to represent low through high knowledge (Rao and Monroe 1988). Further, this product category does exhibit a positive price-quality correlation (Gerstner 1985), a factor that was necessary to examine Hypothesis 3.

Sample

Subjects were recruited from a pool of college juniors and seniors enrolled in apparel or marketing principles classes at a major midwestern university. The sample comprised male and female students and included clothing and textile majors as well as students who were not clothing and textile majors. This procedure is consistent with Sujan (1985), who used members and nonmembers of the photography club to evaluate cameras, and with Rao and Monroe (1988), who used male and female business and clothing majors to evaluate a woman's blazer. Eighty-six responses were gathered from 59 females and 25 males. Two female respondents provided prices for the lower limit of their acceptable price range that were *higher* than their prices for the upper limit of their acceptable price range, suggesting their responses were unreliable. Hence their responses were deleted from further analyses, leaving 84 usable responses.

Prior-Knowledge Measure

Individuals' actual information held in memory, not merely purchase or use experience, is the key motivator of differential price and information search or examination effects (Rao and Monroe 1988). Therefore, recent measures of prior knowledge have incorporated multiple items that include indicators of subjective as well as objective knowledge (Brucks 1986; Rao and Monroe 1988; Sujan 1985). As our theoretical rationale did not predict different patterns for subjective and objective knowledge, a 17-item scale using both types of indicators was constructed on the basis of the typology developed by Brucks (1986) and the product-specific scale used by Rao and Monroe (1988). The scale was developed on the basis of input provided by experts on apparel quality and included questions to assess the subject's knowledge of attributes, attribute-performance relationships, brand and store information, and purchase and use experience, as well as one item that measured self-perceptions of familiarity. Questions were weighted according to expert opinion on the degree of difficulty, which resulted in achievable scores from 1 to 49 (the prior-knowledge measure is provided in Exhibit 1).

EXHIBIT 1

PRIOR-KNOWLEDGE MEASURE

Items	Appropriate answer	Weight
1. Hopsacking is a fabric with a twill weave	No	4
2. I would expect to spend about $150 for a medium-priced woman's blazer	Yes	2
3. Wool flannel is a woolen fabric	No	3
4. Fitting will influence the durability of a blazer	Yes	1
5. A wool gabardine fabric will become shiny with wear and time	Yes	4
6. Overall construction is better in higher-priced blazers	No	1
7. Hand tailoring is an indication of a better fit and construction in a blazer	No	2
8. Buttons sewn on with a shank or stem provide more durability in heavier fabric	Yes	4
9. A major difference between blazers from the low and high price ranges is in the fabric	Yes	1
10. Benetton sells a large variety of tailored blazers	No	3
11. Generally, cashmere fibers are less expensive than Shetland wool before they are made into a fabric	No	2
12. Anne Klein II blazers are generally priced at about $150	No	3
13. I evaluate the pitch of a sleeve before purchasing a blazer	Yes	4
14. I would compare many blazers before I bought one	Yes	1
15. I own a woman's blazer	Yes	3
16. I have bought a woman's blazer (if not for myself, for a friend)	Yes	4
17. Regarding women's blazers, would you consider yourself		
1 2 3 4 5 6 7		
Extremely Unfamiliar / Neither Familiar Nor Unfamiliar / Extremely Familiar		

Procedures and Data Collection

An interactive, computer-aided data-collection method was utilized and was considered particularly

appropriate for this study because one of the dependent variables (time) could be measured relatively unobtrusively and accurately. Subjects used a pointing device (mouse) to operate the computer. Extensive pretests were conducted to ensure that subjects were comfortable with the computer-based data-collection procedure. There were three basic components to the task: (1) a preliminary phase that included familiarization with the computerized task, the cover story, and the prior-knowledge measure, (2) an orienting task, and (3) the stimulus. These are described below.

Preliminary Tasks. Embedded in the training portion of the data-collection procedure was a cover story that an anonymous corporate sponsor was interested in assessing consumers' ability and interest in computer-aided shopping for clothing products. Subjects were informed that they would be asked to evaluate a woman's blazer and were requested to assume an interest in purchasing one, either for themselves or for a friend. Subsequently, subjects responded to the knowledge scale, which preceded the stimuli to guard against potential contamination. Within this portion of the exercise, subjects were provided extensive details regarding the procedures and tasks they would have to perform.

Orienting Task. Consistent with earlier computer-based research (Urbany 1986), subjects next performed an orienting task during which they were sensitized to the kinds of stimuli to which they would be exposed, samples of additional information (extrinsic and intrinsic) they could examine, and the kinds of evaluations they would be expected to make. In the orienting task, subjects were first exposed to an ad, similar to a catalog ad, that had picture and word elements. Three "buttons" or menu options were displayed at the bottom of the screen. These were labeled "general information," "specific information," and "product evaluation" and were presented in random order to control for order effects.

These labels are not very descriptive of the information that was revealed once the menu item was selected. However, the descriptiveness of the label is not an issue for two reasons. First, by the time they had reached the actual task, subjects would likely recall that clicking on general information, for instance, revealed extrinsic information in the orienting task. Second, if they mistakenly selected a menu item, they could rapidly select the menu item in which they were truly interested. Thus, the relative time spent on the screens would change only marginally in the event of an erroneous selection. Any such random error would only attenuate the statistical significance of the results, an outcome that was not observed.[3]

[3]An examination of the data reveals that only five subjects did not select *any* information during the orienting task, and two of these five subjects did select an item of information in the subsequent stimulus task. Overall, 59 subjects selected both items of information in the orienting task.

On exiting from the screen that contained an ad for a woman's blazer and *before* being exposed to the additional information they had requested, subjects were asked to indicate what price they considered to be "high but acceptable" and "low but acceptable" for the blazer they had just seen by clicking the mouse on a horizontal line (using these phrases to measure price limits is consistent with Monroe [1971a, 1973]). The line had gradations from $0 to $500, a price range that encompassed prevailing market prices for the test product. This procedure ensured that the price limits provided would reflect only subjects' prior knowledge and other (nonprice) information available in the stimulus screen because subjects had not yet been exposed to the price of the product from the experimental material. When subjects selected extrinsic information to aid in their evaluation, they received, among other items, information regarding the price of the stimulus in the orienting task ($149.50) and the approximate price range of similar blazers ($90–$500). Note that, in this orienting task, subjects were exposed to price information *after* they had responded to the price-limit-related items.

Stimulus and Dependent Variables. Following the orienting task, subjects were exposed to another picture and word combination of a clothing catalog ad. The procedure followed was identical to the one used in the orienting task. The amount of time spent on the extrinsic information screen (ETIME) and intrinsic information screen (ITIME) was automatically recorded by the computer. If a particular menu option was not selected, time spent was recorded as zero. Further, as in the orienting task, before exposure to intrinsic or extrinsic information or proceeding to the product-evaluation stage, subjects were requested to provide upper and lower limits to their acceptable price range for the blazer they had just seen. Note that, while subjects may have acquired a general reference price for blazers in the orienting task, they did not have any specific price information regarding the stimulus blazer. Therefore, any systematic differences in price limits observed for the stimulus blazer could not result from knowledge of extrinsic or intrinsic information related to the stimulus because subjects had not yet been exposed to that information.

Information. The specific cues in the two information conditions were created by apparel experts after an examination of numerous clothing catalogs. The extrinsic screen comprised information on attributes not directly related to physical attributes, while the intrinsic information screen comprised information related to the physical attributes of the product (Exhibits 2 and 3). The intrinsic screen was expected to require a relatively greater degree of expertise to read and interpret.

Finally, subjects responded to perceived quality–related items. Responses to these items are not directly germane to our research question but were nevertheless

EXHIBIT 2

EXTRINSIC INFORMATION

Priced at $299.99

Prevailing market prices for women's blazers are in the $80–$500 range. Sometimes, the price of a blazer can be higher than $500. Some imports tend to be more expensive, as do designer brands.

For a similarly tailored blazer with comparable fabric and construction, you could expect to pay between $225 and $400 at most U.S. retail outlets.

The brand name of this jacket is Harve Benard and is a respected brand in the apparel industry. While it is not the Rolls Royce of jackets, it is considered to be above average. The company has a history of making fine products that last. Also, the product has recently been introduced into the Australian market, where it is being relatively well received.

EXHIBIT 3

INTRINSIC INFORMATION

Lining:	100 percent rayon twill weave
Weight:	Medium
Weave:	Plain
Buttons:	Natural horn
Length:	26 inches
Fabric:	Wrinkle and pill resistant
Pockets:	Welt
Miscellaneous:	Nonwoven interfacing fused to collar and lapels area; nonpuckered sleeves

included to maintain consistency with the cover story.[4] Demographic information on the subject, including familiarity with Apple Macintosh computers (on a seven-point scale), was also gathered. The data collected were directly uploaded to a mainframe computer for analysis, thus eliminating coding error. On the basis of responses to an open-ended question administered at the end of the study it was determined that no subject had guessed the true purpose of the data-collection task.

ANALYSIS AND RESULTS

The independent variable, prior knowledge (PK), consisted of the total value of weighted correct answers to questions in the prior-knowledge measure. Scores on the scale ranged from 2 to 39, with a mean of 17.81 and standard deviation of 8.77; the reliability of the scale (α = .70) was considered adequate (Nunnally 1978). The time spent on extrinsic and intrinsic information was automatically recorded, and a difference measure (TIMEDIFF = ETIME − ITIME) was automatically computed. Eight subjects (six females and two males) chose not to seek further information but proceeded to the evaluation task immediately.

In Table 1, some descriptive information regarding subjects and their responses is provided. In general, as expected, it appears that women and clothing majors scored best on the prior-knowledge scale. Further, men seemed to spend more time examining extrinsic relative to intrinsic information, when compared with women; also, both the lower and upper price limits provided by men were higher than those provided by women. Finally, while clothing majors seem to have relatively high lower price limits, business majors seem to have relatively high upper price limits (52.4 percent of subjects, all women, owned a woman's blazer).

Our intent in this study was to identify patterns of price acceptability and information examination as prior knowledge changed. Therefore, unlike prior research in which the subject pool was divided into groups on the basis of scores on the prior-knowledge measure (e.g., Rao and Monroe 1988; Sujan 1985), we used regression analysis. Consequently, there was no need to impose cut-off points on the prior knowledge scale to generate low-, moderate-, and high-knowledge groups. To test the three hypotheses presented earlier, we ran three regression models. Each model included appropriate covariates to enhance statistical power, as described below.

Covariates

In all models run, no statistically significant interaction was observed between the covariates and the independent variables of interest. For expository convenience, in all tabular presentation of results, we provide information related to significant model parameters; we do not provide parameter estimates for fully saturated models. The structure of each of the models is provided next.

Model 1. In the analytical model that examined the relationship between prior knowledge and upper price limits, two covariates were used. The upper price limit provided by the subject in the orienting task was the first covariate used. This dollar figure was expected to reflect the subjects' generalized price sensitivity. In other words, it was anticipated that subjects providing low or high price limits for reasons other than prior knowledge (e.g., because of price sensitivity) would do so consistently, and one way of capturing these other factors is through the price limit provided in the orienting task. It was also anticipated that women would be more involved with the target stimulus than men. Consequently, the gender of the subject was included as a second covariate.

The interaction of the covariates with the independent variable was included as model terms in initial runs, and all the interaction terms were found to be statistically nonsignificant. The only covariate found to be statistically significant as a main effect was the prior upper price limit. Consistent with analysis of covariance procedures, this variable was retained in the next run

[4]Five perceived quality items (quality, workmanship, durability, design quality, and fabric quality) were measured using seven-point scales; a "don't know" option was also provided.

TABLE 1

DESCRIPTIVE INFORMATION

		Gender		Major		
	Overall	Males (n = 25)	Females (n = 59)	Business (n = 42)	Clothing (n = 31)	Other (n = 11)
PK	17.81 (8.77)	9.36 (5.03)	21.39 (7.47)	13.60 (7.83)	22.96 (7.64)	19.36 (7.22)
TIMEDIFF (seconds)	12.32 (15.22)	14.53 (17.04)	11.38 (14.44)	12.64 (15.71)	12.38 (14.62)	10.92 (16.38)
LOPR ($)	129.87 (54.01)	147.96 (58.27)	122.20 (50.67)	128.60 (51.76)	134.58 (58.19)	121.46 (53.93)
HIPR ($)	257.88 (87.14)	276.00 (88.88)	250.20 (86.00)	269.21 (91.41)	255.25 (73.22)	222.00 (103.46)

NOTE.—PK = prior knowledge; TIMEDIFF = difference between time spent on extrinsic information (ETIME) and time spent on intrinsic information (ITIME) (i.e., ETIME minus ITIME); LOPR = lower price limit; HIPR = upper price limit. Figures are means (SDs).

as a main effect. This model served as a test of Hypothesis 1.

Model 2. As in the previous model, in the analytical model that examined the relationship between prior knowledge and lower price limits, the covariates used were subject's lower price limit provided in the orienting task and gender. In this instance, while none of the interaction terms was significant, the gender variable approached statistical significance, and the prior lower price limit was also significant. Therefore, both these variables were retained in the next run. This model served as a test of Hypothesis 2.

Model 3. The third analytical model focused on the influence of prior knowledge on the relative time spent examining the two types of information. Potential covariates included in the model were the time spent reading the stimulus (a proxy for reading speed), the gender of the subject, and perceived competence with the computer. These covariates were included because the time spent reading information on women's blazers could likely be influenced by reading speed, involvement (which likely would be higher for females than for males), and ability to use the mouse (which could potentially influence the speed with which subjects clicked on various options). The only covariate found to be statistically significant was the time spent on the stimulus ad. Therefore, this variable was retained in a subsequent run to test Hypothesis 3.

Trend Analyses

Regression Analysis. To test for various functional forms, appropriate regression models were run. For a U-shaped (quadratic) trend, the form is $y = \beta_0 - \beta_1 X + \beta_2 X^2$ (Myers 1986). Similarly, for a hyperbolic shape, the appropriate form is: $1/y = \beta_0 + \beta_1(1/x)$ for the negative curvature (Myers 1986). This model is derived from a functional form that is nonlinear in the model coefficients: $y = x/\beta_1 + \beta_0 x$. Appropriate covariates were introduced into the models to control for reading speed, price sensitivity, gender, and perceived familiarity with the computer, as discussed earlier. One-tailed tests were used to assess support for all directional predictions. The results from the various regression models run are presented in Table 2 (sec. A).

The upper and lower limits of the acceptable price range were found to increase and then level off as prior knowledge increased. Such trends would be described by hyperbolic functions with negative curvatures. The *positive* coefficients (Myers 1986, p. 179) associated with the model terms indicate that such a trend was found for the lower and upper limit. An inverse transformation of the intercept term indicates that the curves for lower and upper price limits level off at $59.71 and $129.86, which reflect the lower and upper limits of the prevailing market price range for the target stimulus, as evidenced by local market prices during the time period in which data were collected. Thus, there appears to be support for both Hypotheses 1 and 2.[5]

[5]A linear trend was also examined and yielded nonsignificant coefficients for PK. This finding further suggests that acceptable prices have a natural upper bound; acceptable prices will not increase beyond a certain point, as prior knowledge increases. One reviewer raised a concern with the use of the price response in the orienting task as a covariate in the regression of prior knowledge on price responses in the stimulus task. It was argued that, *if* the relationship between prior knowledge and the price response in the orienting task were nonzero, then the use of price response in the orienting task as a covariate in the regression of prior knowledge on price response in the stimulus task would generate a biased coefficient for prior knowledge. Consequently, the values for the coefficient associated with PK^{-1} in lines 1 and 2 of Table 2 would have been biased if prior knowledge and price response in the orienting task had been related. However, an examination of the relationships between prior knowledge and price responses in the orienting task confirms that the coefficient was not significantly different from zero. Further, on the basis of the theoretical argument, there would be no reason to expect such a relationship in the absence of a reference price. Recall that prior to exposure to the orienting task, low-knowledge subjects likely had no reference price from which to discount. In essence, this additional analysis provides further support to our claim that reference prices are necessary for the predicted discounting mechanism to occur, and we are grateful to this reviewer for directing us toward this analysis. A final analytical concern relates to the success of the experimental induction of the reference price. It was observed that 15 subjects did not access extrinsic information in the orienting task and were thus not exposed to the

TABLE 2

REGRESSION RESULTS

Result number	Model parameters	R^2	p
A:			
1	$(HIPR)^{-1} = .0077 + .0033(PK)^{-1} - .0000Cov1$	.41	.0001
2	$(LOPR)^{-1} = .0167 + .0136(PK)^{-1} - .0000Cov2 - .0019Cov3$	.40	.0001
3	$TIMEDIFF = 17.93 - 1.54PK + .03PK^2 + .19Cov4$	.15	.0041
B:			
4	$APR = 21.74^a + 4.33PK - .11PK^2 + .81Cov5$	.40	.0001
5	$ETIME = 28.63 - 1.49PK + .03PK^2 + .18Cov4$	.14	.0042

NOTE.—All coefficients are significant at $p < .05$ or better; except for the intercept term, one-tail tests were performed to assess statistical significance. All other covariates and their interactions were nonsignificant. Coefficients associated with hyperbolic functions need to be transformed before they can be interpreted. TIMEDIFF = difference between time spent on extrinsic information (ETIME) and intrinsic information (ITIME) (i.e., ETIME − ITIME); PK = prior knowledge; HIPR = upper price limit; LOPR = lower price limit; APR = width of acceptable price range, i.e., difference between upper and lower price limits (i.e., HIPR − LOPR). Cov1 = upper price limit in orienting task; Cov2 = lower price limit in orienting task; Cov3 = gender (females = 1, males = 2); Cov4 = time spent on stimulus screen; Cov5 = width of Acceptable Price Range in orienting task.

[a] Not statistically significant.

Finally, as prior knowledge increased, relative reliance on extrinsic versus intrinsic information was found first to decline and then to increase (i.e., a U-shaped quadratic curve with a negative linear component and a positive quadratic component). On the basis of the coefficients associated with the quadratic form, the minimum of the curve occurs at $X = 25.66$, and the curve intersects the X-axis at 16.77 and 34.56, which indicates that subjects scoring below 16 and above 35 spent more time examining extrinsic information than intrinsic information. These results provide support for Hypothesis 3.

Secondary Analyses. Recall that no hypothesis had been provided for width of the acceptable price range. There was no apparent reason to expect that the width of the acceptable price range would increase or decrease as prior knowledge increased; the only theoretical prediction that could be made was that consumers who were high in knowledge would provide a width that reflected prevailing market prices. Nevertheless, to investigate the presence of any trend, a regression model was run on the data to examine the relationship between prior knowledge and the width of the acceptable price range. In this model, the dependent variable was defined as the arithmetic difference between the upper price limit and the lower price limit; as in the previous models, the covariates used were the prior acceptable price range (the arithmetic difference between the upper and lower price limits as measured in the orienting task) and gender. Only the width of the acceptable price range in the orienting task was found to be a significant covariate and was retained in subsequent model runs.

The width of the acceptable price range was found to exhibit a quadratic (inverted U) relationship with prior knowledge (Table 2, sec. B).[6] As the results indicate, the acceptable price range is narrower for subjects who are low and high in prior knowledge; the linear component of the curve is positive while the quadratic component is negative. An examination of the regression equation indicates that the width of the acceptable price range reaches its maximum approximately when prior knowledge scores reached 19. Further, the acceptable price range intersects the X-axis (i.e., assumes a value of zero) at −4.51 and 43.87; both these points are outside the range of measured prior-knowledge scores. Some speculation regarding this finding is offered briefly in the Discussion.

Finally, to determine whether there were any interesting patterns in how each type of information had been attended to independently, as opposed to examining the relative emphasis accorded extrinsic versus intrinsic information, the times spent on extrinsic information and intrinsic information were regressed separately against prior knowledge. Only one model yielded significant coefficients, and results for that model are reported in Table 2 (sec. B, result 5). Examining results 3 and 5 jointly suggests that the quadratic shape observed for TIMEDIFF was primarily due to the quadratic shape of ETIME, as ITIME exhibited no trend (i.e., slope of ITIME is zero).

The finding that price limits tended to be relatively low for low-knowledge subjects was based on the argument that such subjects would discount an externally provided reference price to a greater degree than subjects who were higher in knowledge. The specific reference price provided in the orienting task was $149.50. However, an alternative explanation for the results could be that low-knowledge subjects anchored on the reference

experimental reference price. Analysis of data without these 15 subjects yields virtually identical results, suggesting that these 15 subjects probably had an internal reference price that corresponded to our experimental reference price.

[6] Other (linear, hyperbolic, and log-transformed) functional forms did not yield significant results.

price to a greater degree than high-knowledge subjects did. Consequently, while low-knowledge subjects did indeed discount as predicted, high-knowledge subjects were able to discern the actual quality of the garment and indicated price limits that reflected this actual quality. Therefore, the provision of a relatively high reference price (e.g., $349.50) should result in low-knowledge subjects' discounting from this high price while high-knowledge subjects would continue to provide price limits that reflected the actual quality of the garment. Thus, with a high reference price in the orienting task, a descending slope that levels off (a positive hyperbola) may be observed. To address this rival explanation, a second study was conducted, providing subjects with a relatively high reference price in the orienting task. This second study and associated results are presented next.

STUDY 2

In the second study, one principal change was made to the stimulus. The information that subjects acquired in the orienting task now included a price of $349.50. The associated extrinsic and intrinsic information was reworded to reflect this higher-priced blazer. This particular price was selected because it was higher than the price in the stimulus task and because it was sufficiently lower than $500.00, which was the highest price available for subjects on the response scale, thus reducing any concerns regarding a "ceiling" effect.[7]

A total of 61 subjects were recruited to participate in this study. As before, they included juniors and seniors enrolled in marketing classes as well as classes in clothing and textiles. As in the first study, subjects' responses were directly recorded on a personal computer.

The data were collected in two separate computer laboratories. In the second laboratory, which was where 13 clothing and textile majors provided responses, some computer problems were encountered. Specifically, the hardware and associated operating system had been replaced and, consequently, some of the prompts from the computer during the session were incorrect. For instance, at one point in the program, after the subject indicated a price response (e.g., $150), the computer screen would normally display the following message: "Your response was $150." The respondent would have the opportunity to correct his/her price response if a figure other than $150 had been intended. However, as a result of the hardware change, the computer prompt during this data-collection task did not reflect the input of the subject. In other words, if a subject entered $150, the computer would respond with the following message: "Your response was $49." Reentry did not resolve the problem. Consequently, it was decided that, in light of the data-collection problems, the responses from the clothing and textile group of subjects were probably unreliable. However, when we analyzed the data set comprising only the 48 subjects who were not clothing and textile majors, we observed significant positive relationships between prior knowledge and lower price limits (LOPR) and upper price limits (HIPR). Specifically, the simple regression equations[8] were

$$\text{LOPR} = 113.04 + 2.39\text{PK}$$

and

$$\text{HIPR} = 253.76 + 3.39\text{PK},$$

where PK is prior knowledge; all coefficients were significant ($p < .05$). The implication of this finding is that, indeed, as prior knowledge increases from low to moderate levels, the price limit increases as well. Note that the intercept term in the second study is higher than in the first, which indicates that subjects were influenced by the higher reference price provided in the second study. Further, we argue that this positive trend will not continue *indefinitely* but should level off after some level of prior knowledge is encountered because, after some level on the scale, all subjects would know the "true" price, quality, and value of the blazer. Thus, if we had successfully captured the high end of the knowledge continuum, we would likely have observed a leveling off of the observed regression line. In sum, while the anticipated negative hyperbola was disappointingly not observed as it was in the first study, the basic argument appears to have received empirical support. As predicted by the theoretical development, increases in prior knowledge lead to an enhanced willingness to pay because of an enhanced ability to evaluate quality, which likely leads to less discounting of the price of the product. Thus, the rival hypothesis, that a downward-sloping curve may be observed if a high reference price is provided, did not receive empirical support.

A discussion of our findings and associated implications for consumer behavior and pricing theory is presented next.

DISCUSSION

This article addressed two principal issues. First, the study examined the limits of the acceptable price ranges of subjects who differed in their prior knowledge. Upper and lower limits of the acceptable price range were found to increase and then to level off as knowledge increased. In a secondary analysis, it was determined that the width of the acceptable price range first increased and then decreased as prior knowledge increased. Results from a second study provided evidence

[7]We did not change the response-scale values to ensure that we were not introducing an additional source of variation that would limit the extent to which we could compare the results from this study with those of the first study.

[8]No covariates were included because the data were sufficiently powerful to estimate the simple regression.

that the positive slope observed in study 1 is robust to the price level provided in the orienting task and is not due to an "anchoring" process by novices. Second, the relative emphasis accorded to various types of information by differentially knowledgeable consumers was examined. It was expected that consumers would examine useful information that they could interpret and did not already possess. As subjects with greater prior knowledge were encountered, examination of extrinsic information *relative* to intrinsic information was found first to decline and then to increase. A secondary analysis revealed that this relationship was related primarily to the time spent examining extrinsic information because there was no discernible relationship between prior knowledge and intrinsic information examination.

Price Limits

The finding that low-knowledge subjects systematically displayed lower price limits than moderately or highly knowledgeable subjects is a finding that is consistent with the argument based on the missing-information literature.[9] When subjects were asked to provide upper and lower price limits, they had a common reference price provided in the orienting task. Second, they had been exposed to some relatively uninformative advertising copy. Low-knowledge subjects had little or no basis on which to make quality and, hence, value inferences. Consequently, they likely provided price limits that reflected a discounted assessment of quality that was based on the price information acquired in the orienting task. Meanwhile, subjects who were more knowledgeable of market prices and product quality (and therefore less uncertain) likely discounted the price information acquired in the orienting task to a lesser degree. This discounting of missing price information probably disappeared altogether when consumers with knowledge of prevailing market prices were encountered and/or consumers with knowledge of the quality of the stimulus product were encountered. A post-factum examination of the points of inflexion for the two hyperbolas in the first study indicates that the steady rise in price limits flattened out somewhere between 26 and 29 on the prior-knowledge scale, which reflects the eighty-third percentile for the scale. The observation that both curves flattened out in the same range of the scale lends support to our contention that, as high knowledge was achieved, discounting did not occur any further because of improved information on quality and market prices.

Information-Examination Patterns

With regard to the relative examination of extrinsic versus intrinsic information, the results of the study are consistent with the extant literature. From the theoretical perspective, the evidence suggests that, for product categories such as women's blazers in which extrinsic information such as price is perceived to be a valid index of product quality (Gerstner 1985; Rao and Monroe 1988), extremely knowledgeable subjects exhibit increased reliance on such extrinsic information. Moderately knowledgeable subjects are able to use intrinsic information for evaluation but have not yet acquired the knowledge that allows them to use extrinsic information for accurate evaluations; they therefore rely on intrinsic information to a greater degree. Finally, subjects who are at the low end of the knowledge continuum are virtually unable to interpret intrinsic information and therefore rely on interpretable extrinsic information.

Limitations and Future Research

In the tradition of previous research (Brucks 1985; Johnson and Russo 1984; Rao and Monroe 1988; Sujan 1985), prior knowledge was premeasured and not manipulated. While this does not rule out rival hypotheses, from a theoretical perspective an alternative explanation for the findings is not readily apparent. For instance, motivational variables such as involvement would tend to predict monotonic rather than quadratic or hyperbolic trends (Brucks 1985; Rao and Monroe 1988).

Second, the generalizability of our results is subject to question. For instance, the observed effects are likely to vary across product classes, particularly if different product classes reveal their quality-related properties to differing degrees. Similarly, involvement, perceived risk, and other variables likely moderate the observed effects.

Clearly, our inability to completely replicate the findings from study 1 in study 2 is a source of concern. It would have been gratifying to have gathered sufficient data from the high-knowledge group to establish whether a negative hyperbola or an inverted-U pattern, perhaps driven by high-knowledge subjects' ignoring externally provided reference-price information and

[9]The quadratic shape for the width of the acceptable price range observed in the first study may be explained by categorization theory. Increased expertise results in an ability to identify categories at a finer level; thus, highly knowledgeable subjects provide narrower price ranges than moderately knowledgeable subjects. While appealing, this rationale does not explain why low-knowledge subjects did not then display the largest width of acceptable prices. Perhaps the tendency to discount missing information and offer systematically low prices overwhelms any tendency to provide wide ranges that reflect their inability to make appropriate category judgments. In essence, therefore, low-knowledge subjects likely displayed their lack of knowledge about prevailing market prices (and hence consistently discounted all their price responses), moderately knowledgeable subjects displayed their knowledge of the broad category of women's blazers and associated market prices (a relatively broad range), and highly knowledgeable subjects likely displayed their knowledge of the finer category of women's *tweed* blazers and consequently provided a narrower price range. This approach is consistent with recent thinking regarding the use of categorization theory to study reference prices (Monroe, Grewal, and Compeau 1991).

placing greater emphasis on reference-price information in memory, would be observed.[10] This issue is of potential interest and is left to future research.

Future research needs to focus on a number of issues that were not addressed in this research. First, as Alba and Hutchinson (1987) note, prior knowledge is multidimensional. Recent research suggests that each dimension of knowledge may be related to information search, acquisition, and use patterns in different manners (Rao and Olson 1990). Second, the observed variations in the width of the acceptable price range depending on prior knowledge needs more rigorous theoretical scrutiny. With the evolution of computer-based methodologies, similar process-tracing research related to consumer information processing, memory, and judgment and choice processes would be feasible and worthwhile.

Conclusion

The finding that price limits and the width of the acceptable price range will vary depending on consumers' prior knowledge reinforces the significance of prior knowledge as an individual difference variable of interest to researchers and practitioners in a variety of areas, including advertising and pricing. Our findings are consistent with previous findings on the relationship between prior knowledge and price acceptability and are based on a theoretical approach that is consistent with consumer behavior and economics (Klein and Leffler 1981; Shapiro 1983). Second, our results extend past research on prior-knowledge effects on price-quality perceptions (Rao and Monroe 1988) and suggest that, as subjects with greater prior knowledge are encountered, the emphasis accorded to extrinsic information first declines and then increases. For marketers and purveyors of public information, these findings potentially suggest different information-provision strategies depending on the level of knowledge that prevails among consumer segments. For instance, an emphasis on extrinsic information may be inappropriate if the target segment is largely moderately knowledgeable. Clearly, an understanding of the effects of prior knowledge on consumer information processing is of potential significance from theoretical, practical, and public policy perspectives.

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[10]We are grateful to Kent Monroe for identifying this issue.

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